

Application No. 10/772,102

### AMENDMENTS TO THE SPECIFICATION

#### In the Specification

Please substitute the following amended paragraph(s) and/or section(s) (deleted matter is shown by strikethrough and added matter is shown by underlining):

Page 10, line 8.

A number of suitable solid, non-rare earth metal/metalloid precursor compounds can be delivered as an aerosol from solution. For example, zinc chloride ( $\text{ZnCl}_2$ ) and zinc nitrate ( $\text{Zn}(\text{NO}_3)_2$ ) are soluble in water and some organic solvents, such as isopropyl alcohol. Aluminum nitrate ( $\text{Al}(\text{NO}_3)_3$ ) is soluble in water. Barium chloride ( $\text{BaCl}_2$ ) and barium nitrate ( $\text{Ba}(\text{NO}_3)_2$ ) are soluble in water. Magnesium nitrate ( $\text{Mg}(\text{NO}_3)_2$ ) is somewhat soluble in water and is freely soluble in alcohol, and magnesium chloride ( $\text{MgCl}_2$ ) is somewhat soluble in water and alcohols. Additionally, the aerosol solution can comprise ammonium ions.

Page 22, line 2.

As noted above, metal/metalloid oxide particles can be converted to the corresponding metal/ metalloid sulfides by heating the oxide in a sulfurizing atmosphere formed by a  $\text{H}_2\text{S}$  gas atmosphere or a  $\text{CS}_2$  vapor atmosphere. The metal/metalloid oxides can be heated gently to form the sulfide. Since the sulfides are extremely reactive, the heating can be very gentle, generally less than about  $500^\circ\text{C}$ , preferably less than about 400 ~~[[500]]~~ $^\circ\text{C}$  and even more preferably less than about  $300^\circ\text{C}$ . Suitable concentrations of sulfurizing agent and reaction times can be evaluated empirically by examining the x-ray diffractograms of the resulting materials or by performing an elemental analysis.